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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,589	01/24/2003	Elmgaard Birger Sorensen	6474-02WOUS	4089

7590 12/13/2004

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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,589

Applicant(s)

SORENSEN, ELMGAARD BIRGER

Examiner

Donald Heckenberg

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 4, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the Applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (c) BRIEF SUMMARY OF THE INVENTION.
- (d) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (e) DETAILED DESCRIPTION OF THE INVENTION.
- (f) CLAIM OR CLAIMS (commencing on a separate sheet).

(g) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

2. The drawing is objected to because it is not specifically labeled "Figure 1." Despite there being only one drawing, it still needs to be labeled as such.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

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corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The disclosure is objected to because of the following informalities:

The disclosure must include a brief description of the drawing specifically referring to it as Figure 1.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 5 recites the limitation "the fourth air duct" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is noted that this structure is defined in claim 3, but not claims 1 or 4 from which claim 5 depends. For purposes of further evaluation of this claim in

the rest of this Office Action, it will be assumed that the dependency of claim 5 is recited correctly as the claim contains structures which are defined in claim 4, and that the recitation of "the fourth air duct" in claim 5 is simply the introduction of a new element. However, appropriate clarification and correction are required.

Claim 10 recites the limitation "the nits-opener" in line 2, for which there is no antecedent basis. This structure is however defined in claim 4, and thus for purposes of further evaluation of this claim in the rest of this Office Action, it will be assumed that claim 10 depends from claim 4. However, appropriate clarification and correction is required.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for

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establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson (U.S. Pat. No. 4,921,650) in view of Laursen et al. (U.S. Pat. No. 4,640,810).

Eriksson discloses a plant for forming of webs from fiber materials (see Fig. 2 and cl. 1, ll. 6-32). The plant comprises a defibrator (21) for defibrating the fiber material. A forming head (1) is provided for forming a fiber web on an endless forming wire (27) which runs horizontally during operation (see Fig. 2). A first transport fan (25) is provided for transporting the fibers to the forming head via a first air duct (see Fig. 2).

Eriksson further discloses that reject which includes entangled fibers and thus, "nits" (cl. 2, ll. 17 and 18) is separated out at the forming head and sent via a second air duct (28 and 29) to a separator (cl. 2, l. 65 - cl. 3, l. 2). The separator (23) separates rejected entangled fibers (nits) and

well-opened fibers (cl. 2, ll. 60-64). Eriksson also discloses a duct (26) for removing the entangled-nits fibers from the separator (equivalent to the "fourth air duct" defined in the claims of the instant application).

Eriksson does not disclose a second transport fan to be positioned in the second air duct (28 and 29) or a transport fan to be positioned in the "fourth" duct (26). However, transport fans are well known in the art to provide propulsion of fibers through duct as evidenced by Eriksson (cl. 2, ll. 61-63) as well as Laursen (cl. 9, ll. 37-41). Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the plant disclosed by Eriksson as such to have a second fan positioned in the second air duct and a fourth fan positioned in the fourth air duct to drive the fibers therein because fans are well known in the art to drive fibers in air ducts as suggested by Eriksson and/or Laursen.

Eriksson discloses the well-opened fibers separated at the screen (23) to be returned to the forming head via the first conduit (24). Therefore, Eriksson does not disclose a third transport fan for returning the well-opened fibers to the forming head via a third air duct.

Laursen discloses a system for producing an air laid web wherein fibers that are at first sent to the forming head with

nits and then recycled back to become well opened, are transported back to the forming head by a "third fan" (36) through a "third conduit" (as opposed to the first fan 38 and corresponding conduit, and second fan 168 and corresponding conduit 166).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the plant disclosed by Eriksson as such to have the used a third fan and third conduit for sending the well-opened fibers to the forming head after separating because this is an alternative configuration also known in the art to transport the fibers through the plant as suggested by Laursen.

Claim 6 of the instant application recites that the nits separator is a forming head. Eriksson discloses the separator (23) to be a screen. However, as described above, Eriksson discloses the entangled-nits to separated from the well-opened fibers at the forming head (1). Thus, the forming head is known in the art to also be a separator capable of sorting the entangled-nits and the well-opened fibers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have substituted a forming head for the separating screen disclosed by Eriksson because these

structures are both known to function to separate entangled-nits and well-opened fibers as suggested by Eriksson.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Heritage (U.S. Pat. No. 2,940,134).

Eriksson discloses the plant for forming of fiber webs as described above, including the use of screen separator (23). Eriksson does not the separator to be a cyclone.

Heritage discloses a fiber producing apparatus which includes cyclones which are used for fiber separation (cl. 5, ll. 7-15).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to have modified the plant disclosed by Eriksson as such to have used a cyclone instead of a screen because cyclones are known in the art to be an alternative for fiber processing and separation as suggested by Heritage.

10. Claims 4, 8, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 5 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Note the interpretation given to these claims described above.

12. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest a plant for producing a nonwoven web as described in claim 4. The closest prior art is disclosed by Eriksson and/or Laursen. These references fail to teach or suggest a nits-opener to convert the separated nits into well-opened fibers as defined in claim 4 in addition to the structures defined in claim 1.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (571) 272-1131. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech, can be reached at (571) 272-1137. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<<http://pair-direct.uspto.gov>>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

 12-9-04
Donald Heckenberg
A.U. 1722